

Pneumatics & Hydraulics



Features

- Industrial components used throughout the product range
- Industrially relevant training exercises
- Trolley, Portable & Briefcase, training systems
- Robust Construction
- System expansion possible (Except Tutor Kits)
- Supported by comprehensive training material

For many years fluid and air power has provided the industrial 'muscle' to move mechanical systems. These systems involve the generation, transmission and control of pressurised fluid or gas. This form of power and its associated components offer a relatively simple and low cost means to implement high power design solutions and automatic manufacturing control systems. One of the advantages of such a power source is it's safe use in environments of high flammability where the use of electrical power can be restricted or prohibited. The components used in fluid and air systems tend to be relatively uncomplicated consisting mainly of mechanical parts that can be easily constructed to perform specific process operations. Their simplicity offers low maintenance, high reliability with high efficiency and compactness making them an ideal choice in many applications over their electrical/electronic counter parts.

There are numerous applications of fluid and air power, some can be found in our daily lives in obvious applications such as motor vehicle braking and suspension systems, lifts and jacks through to aircraft flap controls, industrial road breakers, and material crushers.

One area where this power is extensively applied is in the manufacturing industry where the power is used to automate processes through the application of actuators, sensors and motors forming systems that control the process activity, partly, and in some applications, from start to finish.

Feedback has a wide range of Pneumatic and Hydraulic system trainers that cover the many techniques used in industrial systems, manufacturing, and in component handling.

This extensive product range has been conceived for the training of technicians, engineers and maintenance staff that require knowledge of the many technical disciplines applied in today's manufacturing industries. Armed with this knowledge technical staff are able to cope with the wide variety of problems that can arise with regularity in the industrial work place.

Subject Coverage

- **Pneumatics & Electro-pneumatics**
Single and double acting cylinders with and without striker cam
Directional control valves
Quick exhaust valve
OR, AND, YES, NOT & Memory
Cylinder speed control
Time delay with & without logic functions
Memory with & without logic functions
- **Pneumatics & Electro-pneumatics Tutor Kits and Training Systems**
- **Electro-pneumatics PLC Tutor Kits with Mitsubishi, Allen Bradley & Siemens PLCs**
- **Hydraulic, Tutor Kits & Training Systems**
Directional control valves
Speed control
Pressure control
Single & double acting cylinder
Metering 'IN' & 'Out'

Pneumatics & Hydraulics

Features

- **Wide range of training equipment options**
- **Range covers:**
 - Pneumatics
 - Electro-pneumatics
 - Hydraulics
 - Electro-hydraulics
 - Proportional hydraulics
 - PLC
- **Use industrial specification components**
- **Modular & Expandable**
- **Robust construction**
- **Three style options:**
 - Trolley Mounted
 - Portable
 - Brief case

In planning a laboratory there are many points to be considered such as cost, curriculum, laboratory space etc, that will lead finally to the selected product. This range offers a variety of trainers that vary in size, curriculum coverage and cost. The various product formats apply across the product range to include pneumatic, hydraulic, electro-pneumatic and electro hydraulic trainers that are available as portable trainers such as Tutor kits in non-PLC and PLC formats, bench-top mounted portable construction panels that require component sets in the form of transit/storage cases and mobile trolleys with construction panels that require sets of components.

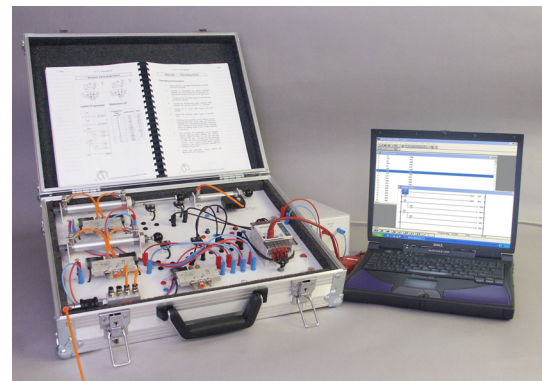
Tutor Kits-Fixed format

Pneumatic, Hydraulic, Electro-Pneumatic, and PLCs.

The 'briefcase' style products offer compact designs that allow for portability and component storage.



Without PLC



With PLC

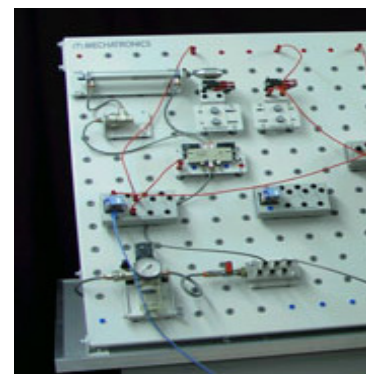
System Benefits

- **Provides complete 'hands-on' training solutions**
- **Supported by comprehensive courseware**
- **Suitable for School, College, University and Industrial training**
- **Low cost options & start up cost**
- **Training systems can be expanded at a later date (Except Tutor Kits)**
- **Compact designs make the most of available space**

Pneumatics Trainers

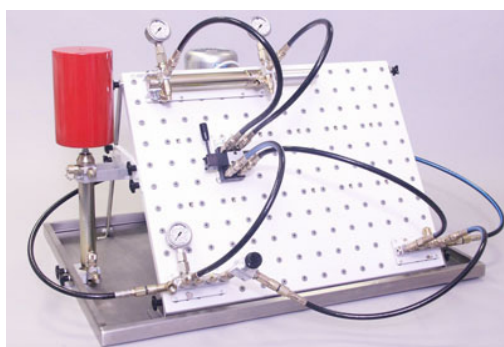


Portable transit/storage case (36-607) with Compact Circuit Building Panel (36-606). For use with Level 1 Pneumatic Components 36-602 and Level 1 Electro-Pneumatic components 36-603.

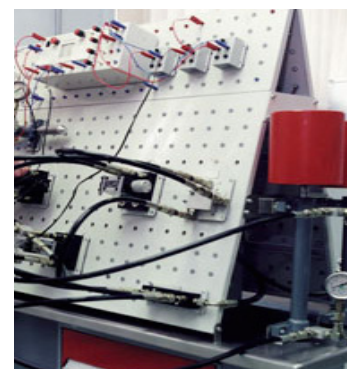


Double Sided Mobile Pneumatics Laboratory Trolley (36-601)

Hydraulic Trainers



Portable Hydraulics Circuit Building Panel Included in the 36-650.



Double Sided Mobile Hydraulics Laboratory Trolley.(36-651).

Pneumatics - Trolley Based Trainers 36-001, 002, 003

This range of trainers is ideally suited to laboratories dedicated to the subject of study. Based on a mobile trolley they occupy and require a larger area for operation than portable bench top alternatives. They are supplied complete with all hardware and courseware, requiring only the connection of a mains power supply.



Mobile trolley 36-601 with compressor installed



Trolley showing two construction panels

Pneumatics Trainer 36-001

This trainer is an ideal laboratory resource providing the introductory training to the subject of pneumatic components and circuits. The trainer consists of a double sided mobile laboratory trolley, two compressors, a set of pneumatic components Level 1 and a collection of exercises

Electro-Pneumatics Trainer 36-002

Introducing the control of pneumatic devices using electrical signalling the trainer extends the activity of the 36-001 to the application of such devices. The trainer consists of a double sided mobile trolley with two compressors, one set of electro-pneumatics components Level 1 and a collection of exercises including solutions

A 24V/2.1A dc power supply, is included.

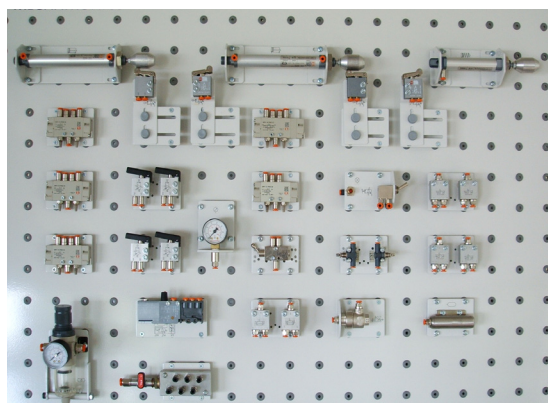
Pneumatics & Electro-pneumatic Trainer 36-003

A combination of the above two trainers, the 36-003 offers a complete trainer dealing with the activities of both subjects areas.

In addition to the mobile trolley complete with compressors, both pneumatic and electro-pneumatic Level 1 component sets are provided along with the collection of exercise and solutions. A 24V/2.1A dc power supply, is included.

Level 1 component set (36-602 is shown)

Although provided as standard for the 36-001 an Abridged component set (36-604) is available that adds Electro-Pneumatic exercises to the Pneumatic Trainer.



Features

- Double sided mobile trolley
- Two full sized circuit construction panels
- Two air compressors
- Level 1 component set
- Exercises and solutions material
- Modular & Expandable system
- Robust construction
- Suitable for dedicated laboratories requiring large circuit construction area

Exercise Applications

Pneumatic & Electro-Pneumatic Level 1 component set

- Assembly fixture
- Date stamping a product
- Bending fixture
- Panel removal from a jig
- Product separation
- Foundry ladle control
- Barrier control
- Component test machine
- Cold room door control
- Roof ventilator control
- Product sorting
- Machine feed
- Product cleansing
- Plastic bag heat sealing
- Hopper door control
- Clamping fixture
- Blister pack assembly
- Conveyor selection
- Lift and transfer station

Pneumatics - Portable Trainers 36-004, 005 & 006

Features

- Industrial components used throughout the product range
- Industrially relevant training exercises
- Portable storage case format
- Robust Construction
- System expansion possible
- Comprehensive training materials

These trainers offer portability and a compact format making them ideal for multi-user class room activities as well as being transportable to other locations as and when necessary. When not in use the transit/storage case is easily stowed away requiring only the minimum amount of space, whilst in use the transit case lid becomes the circuit construction platform and the case base holds the pneumatic parts ready for assembly onto the construction panel.



Typical portable with storage case trainer shown with Electro-Pneumatic components.

System Equipment



36-110

Typical Large Air compressor



36-210

24V/2.1A dc power supply unit for electro-pneumatic components

Pneumatics Trainer 36-004

This is a complete trainer supplied with all the necessary components to carry out the wide range of application activities provided with the trainer. Each of the case parts is approximately 750mm by 600mm and therefore will require a bench area of at least 1500mm by 600mm not including a free area for books, recording results etc.

Included with the trainer is a compact construction panel, large air compressor, heavy duty aluminium frame storage case housing level 1 set of pneumatic components and a collection of exercises including solutions.

Electro-Pneumatic Trainer 36-005

Packaged in the same way as the above trainer but with Level 1 electro-pneumatic components this trainer is a natural addition to the laboratory to introduce electrical control of pneumatic components.

The trainer is complete with all components to carry out the wide range of exercises supplied with the package.

A 24V/2.1A dc power supply is included.

Pneumatic & Electro-Pneumatic Trainer 36-006

This comprehensive trainer providing training on both component types, offering a cost effective course delivery solution. The portable storage case with built in construction panel offers the flexibility to provide additional training needs as demand dictates. Supplied with a large air compressor, heavy duty aluminium frame storage case, Level 1 set of Pneumatic and Electro-Pneumatic Components and a collection of exercises including solutions.

A 24V/2.1A dc power supply is included

Pneumatics - Portable Tutor Kits 36-100, 105 & 200

Pneumatics Tutor Kit 36-100

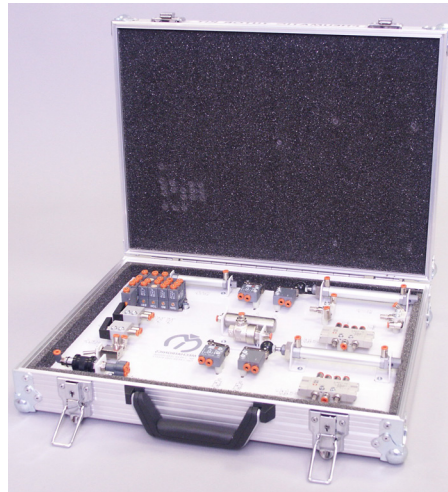
Curriculum coverage

Circuits based around single-acting cylinder control:

- Extend and retract speed control
- 'OR', 'AND', 'YES' & 'NOT' functions

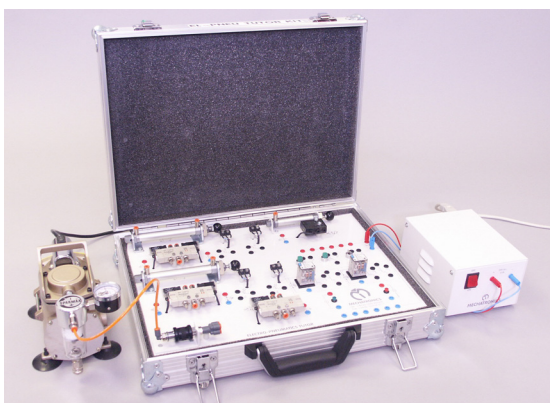
Circuits based around double-acting cylinder control:

- Direct control
- Direct with extend & retract speed controls
- Indirect control
- Indirect with extend & retract speed controls
- Semi-automatic circuit (reverse operation)
- Semi-automatic circuit and speed control
- Automatic circuit and speed control
- Slow speed extend and rapid retract
- Time delay
- OR & AND functions and time delay
- MEMORY function
- Auto cycle, speed control and memory
- OR, AND and NOT operations
- MEMORY function and speed control
- time delay using 'YES' function
- OR and time delay using YES function
- OR and AND functions, semi-automatic circuit
- Memory control and pilot control
- Sequential control
- Cascade control
- Automatic control - time delay and repeat pattern
- Automatic control - slow and fast
- AND function



The trainer requires Air Compressor 36-112.

Electro-Pneumatics Tutor Kit 36-200



Curriculum Coverage

- Lamp (indicator) control - direct/indirect
- Roller-operated and push-button switches
- Solenoid (coil) control - direct/indirect
- Single and double-acting cylinder control - direct/indirect
- Solenoid/spring poppet valve - direct/indirect
- Solenoid/spring spool valve - direct/indirect
- Solenoid/solenoid spool valve - direct/indirect
- AND & OR logic functions
- Semi-automatic, automatic and latching circuits
- Repeat and non-repeat patterns
- Relay control

The trainer requires Air Compressor 36-112 and 24V Power Supply 36-210 as shown in the picture above.

Features

- Portable, rugged construction
- Genuine industrial components
- Fixed component format
- Push-fit connections
- Comprehensive curriculum

Benefits

- Low cost solution
- Minimal set-up time
- No tools needed
- Versatile

Cut Away Components 36-105



A set of pneumatic components that have cut away sections to reveal the mechanical structure of the component to aid the understanding of how they work.

The components are conveniently displayed in a foam insert that not only retains the parts but provides a means of inventory control.

The whole is mounted in a semi-rigid plastic carry case.

Pneumatics - PLC Portable Tutor Kits 36-202 to 205

Curriculum Coverage

- Lamp (indicator) control - direct/indirect
- Roller-operated and push-button switches
- Solenoid (coil) control - direct/indirect
- Single and double-acting cylinder control - direct/indirect
- Solenoid/spring poppet valve - direct/indirect
- Solenoid/spring spool valve - direct/indirect
- Solenoid/solenoid spool valve - direct/indirect
- AND & OR logic functions
- Semi-automatic, automatic and latching circuits
- Repeat and non-repeat patterns
- PLC control and theory including set, reset, counter, timer, flag and logic functions (PLC Tutor Kits)
- Logic plans (Alpha)
- Ladder diagrams (Pico)
- Ladder diagrams and statement lists (FX1S, S7-200)

System Equipment Required

(Not supplied as part of the trainer)



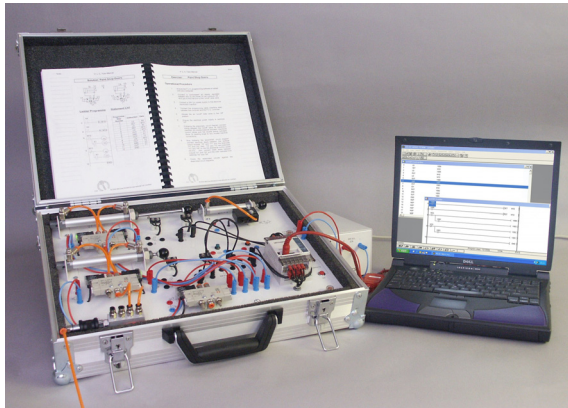
36-112
Small air compressor



36-210
24V dc power supply unit for electro-pneumatic components

These low cost trainers offer portability and a compact format making them ideal for multi-user class room activities as well as being transportable to other locations as and when required. Each trainer requires a compressor 36-112 and power supply 36-210.

PLC Electro-Pneumatics Trainer 36-202



Designed to enhance the study of electro-pneumatic component applications, this broad range of trainers provides the platform to practice programming industrial PLCs.

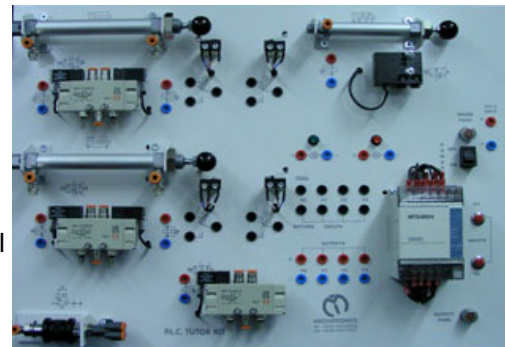
Each unit is fitted with a different manufacturers PLC providing a choice that is relevant to the user.

36-202 is fitted with the Mitsubishi Alpha PLC.

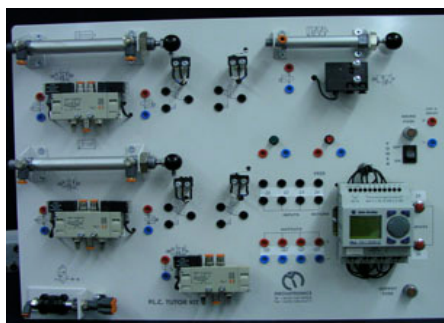
PLC Electro-Pneumatics Trainer 36-203

The electro-pneumatic and pneumatic components consist of single and double acting cylinders with striker cam, adjustable flow control valve, directional control valves solenoid activated, limit switches and 6 way electrical manifold. Also provided are electrical switches and lamps.

The 36-203 contains a Mitsubishi FX1S PLC.



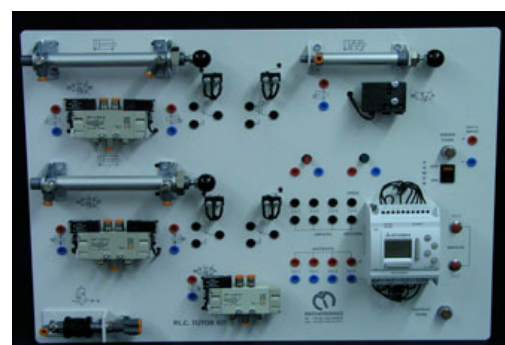
PLC Electro-Pneumatics Trainer 36-204



This trainer is fitted with the Allen Bradley Pico controller.

PLC Electro-Pneumatics Trainer 36-205

Fitted with the Siemens S7-200 PLC.

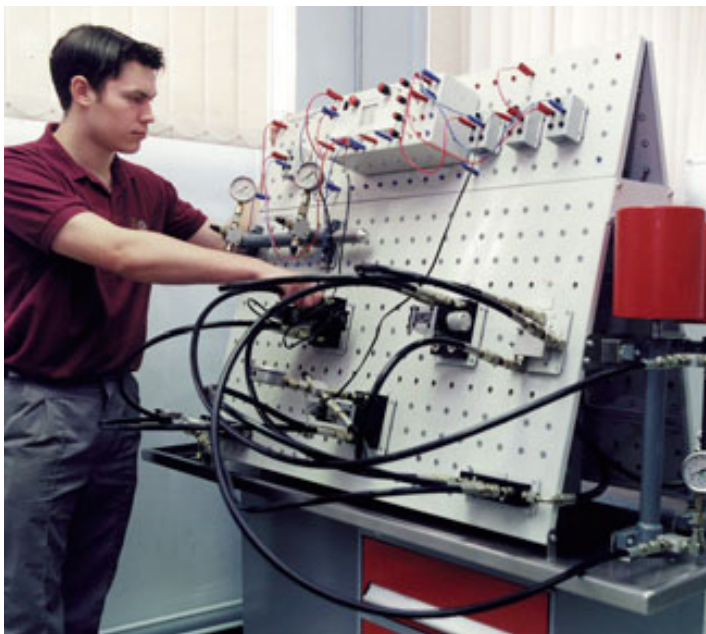


Hydraulics - Mobile Trolley Trainers 36-010 to 36-013

The range of trainers available have been developed to teach hydraulics, electro-hydraulics, proportional hydraulics and programmable logic control (PLC) of hydraulics. A choice is offered that ranges from large mobile systems to bench top portable units that operate with a range of hydraulic sets of components.

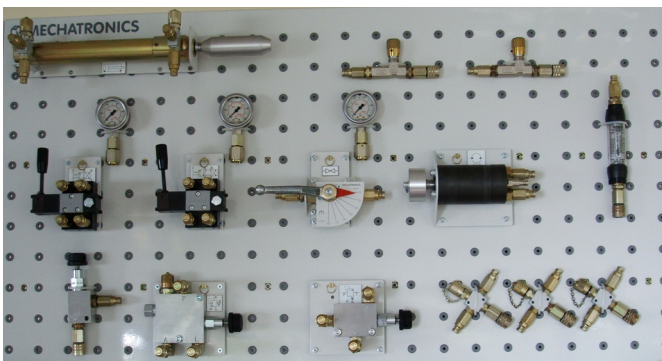
All the hydraulic components supplied are of industrial standard, mounted on plug-in base plates that are push fit into the construction panel and locked with a quarter-turn fastener preventing them from inadvertently becoming dislocated during use. The hole format on the circuit construction panel provides an almost limitless number of possible circuit layouts.

Trainers 36-010 to 36-013 are ideally suited for laboratory use where individuals or student groups can be easily accommodated around the large circuit construction panels.



Hydraulics Trainer 36-010 - Level 1

The trainer is suited to the introduction of hydraulic components and circuits covering the range of exercises available with the Level 1 components set.



Level 1 components (36-652)
This component set can be added too, to extend the range of exercises available through the addition of Hydraulics Level 2 (36-653) and Electro-Hydraulics (36-654)

As well as the double sided mobile laboratory trolley shown above this trainer is supplied with two hydraulic power packs, one for each side, Level 1 components and course curriculum consisting of a set of exercises/solutions with question and answer papers.

Curriculum Exercises

(For Level 1 components 36-652)

- **Pump performance test**
- **Pressure relief valve**
- **Direction control valves**
Reading the circuit diagram
- **Lift table**
Two position DCV
- **Hopper door control**
Three position DCV
- **Surface grinding traverse**
Differential (regenerative circuit)
- **Hydraulic crane**
Flow control
- **Straightening rollers**
Pressure reducing
- **Hydraulic press**
Piloted (2-stage) pressure relief
- **Rolling mill conveyor**
Motor control
- **Power winch**
Motor control

Typical Hydraulic Power Pack



Hydraulics - Mobile Trolley Trainers 36-011 to 36-013

Curriculum Exercises

(For Level 2 components 36-653)

- **Door operation**
Double acting cylinder with weight loading
- **Door with inching facility**
Pilot operation check valve
- **Scrap car crusher**
Multiple pressure relief
- **Pressure with counter balance**
Counter balance
- **Clamp and Press**
Pressure Sequence
- **Lift and Transfer Station**
Two cylinder (sequential circuit)
- **Machine Feed**
Fast/slow cylinder feed
- **Injection Moulding Machine**
Accumulator circuit

Curriculum Exercises

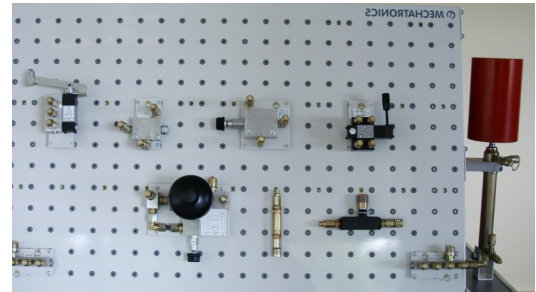
(Proportional Hydraulic components-Level 1)

- **Proportional direction control valve**
Initial amplifier settings
- **Chipboard press**
- **Lift truck**
- **Surface grinder traverse**
- **Surface grinder traverse with ramp control**
- **Milling machine**
- **Rolling mill conveyor**
- **Brick firing kiln**
- **Concrete mixer**
- **Proportional pressure relief valve**
Initial amplifier settings
- **Straightening rollers**
- **Hydraulic press**

Hydraulics Trainer 36-011 – Levels 1 & 2

The trainer provides more advanced exercises than those provided by the 36-010 trainer through the use of the Level 2 component set.

It is assumed that the introductory level curriculum using the Level one components have been studied; the Level 2 component set builds on this prior knowledge. Within the hydraulics laboratory it is desirable to have the two levels of study available increasing the student learning process through-put with readily available training systems that reduce set-up time.



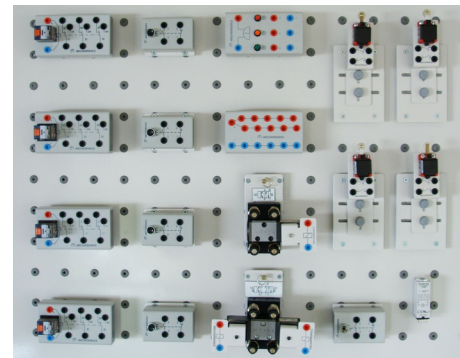
Level 2 components (36-653) shown on a construction panel.

Electro-Hydraulics Trainer 36-012

Introducing electrical control of hydraulic components and circuits the trainer supports a wide range of study through a range of exercises and practical applications. The trainer includes a double sided trolley, hydraulics components Level 1, electro-hydraulics Level 1 and a collection of exercises/solutions and question and answer papers.

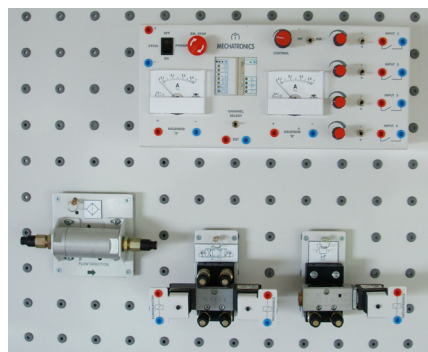
Curriculum Exercises- Electro-Hydraulics (Level 1)

- **Door operation**
- **Chipboard press**
- **Panel removal from a jig**
- **Product sorting**
- **Rolling mill conveyor**
- **Lift table**
- **Lift truck**
- **Power winch**
- **Hydraulic press with limit switch return**
- **Hydraulic press with pressure switch return**
- **Hopper door control**
- **Door with inching facility**
- **Milling machine**
- **Surface grinder traverse**
- **Clamp and press**
- **Concrete mixer**
- **Surface grinder traverse with regenerative circuit**
- **Lift and transfer station**



Electro-hydraulics components Level 1 (36-654)

Proportional Hydraulics Trainer 36-013



Proportional set of components (36-655). This set of components can be added to the Electro-Hydraulics components (36-654) to extend the range of study exercises.

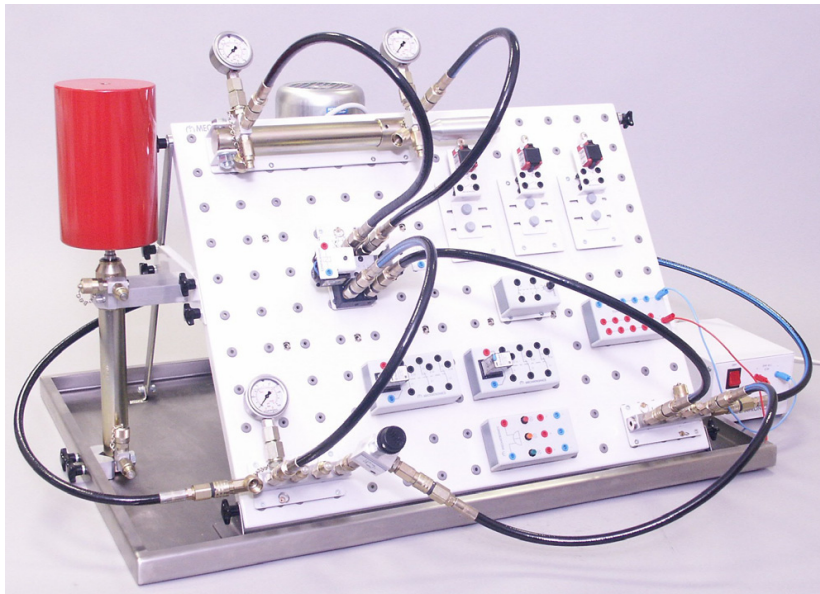
A complete hydraulics training system-this trainer comprises the functionality of the two previous training systems covering Hydraulics, Electro-hydraulics and Proportional hydraulics.

The curriculum exercises covered are for Level 1 components in each case and collectively make up a very comprehensive training program.

The trainer comprises a double sided laboratory trolley, Hydraulics, Electro-Hydraulics, and Proportional Hydraulics Level 1 components complete with exercises/solutions with question and answer papers.

Hydraulics - Portable + Transit/Storage 36-014 to 36-017

Trainers 36-014 to 36-017 are ideally suited to multi-user activities where their compact design and portability makes them an ideal choice for local and remote training requirements. Although compact for bench top use they are ideally suitable for training two students or more at a time that can be easily accommodated around the circuit construction panel.



Inclinable circuit construction panel supplied as part of the 36-650 showing Electro-Hydraulic components and flat faced Pressure and Tank Manifolds in place.

Hydraulics Trainer 36-014– Level 1

The trainer is suited to the introduction of hydraulic components and circuits covering the range of exercises available with the level one components set.



Level 1 Hydraulic components (36-652) shown in the Heavy Duty Aluminium Frame Transit/Storage Case (36-656). Further exercises can be carried out by the addition of Hydraulics Level 2 (36-653) and Electro-Hydraulics (36-654) components.

The complete trainer includes the Portable Hydraulic training System (36-650) consisting of the construction panel with stainless steel drip tray shown above, Hydraulic power pack, Pressure Manifold, Tank Manifold and carry bag for the circuit construction panel.

Supplied also, is Hydraulic Level 1 components and a collection of Exercises/Solutions with Questions/Answer Papers (36-812).

Curriculum Exercises

(For Level 1 components 36-652)

- **Pump performance test**
- **Pressure relief valve**
- **Direction control valves**
Reading the circuit diagram
- **Lift table**
Two position DCV
- **Hopper door control**
Three position DCV
- **Surface grinding traverse**
Differential (regenerative circuit)
- **Hydraulic crane**
Flow control
- **Straightening rollers**
Pressure reducing
- **Hydraulic press**
Piloted (2-stage) pressure relief
- **Rolling mill conveyor**
Motor control
- **Power winch**
Motor control



Flat faced Pressure and Tank manifolds supplied as part of the 36-650



Hydraulics - Portable + Transit/Storage 36-015 to 36-017

Curriculum Exercises

(For Level 2 components 36-653)

- **Door operation**
Double acting cylinder with weight loading
- **Door with inching facility**
Pilot operation check valve
- **Scrap car crusher**
Multiple pressure relief
- **Pressure with counter balance**
Counter balance
- **Clamp and Press**
Pressure Sequence
- **Lift and Transfer Station**
Two cylinder (sequential circuit)
- **Machine Feed**
Fast/slow cylinder feed
- **Injection Moulding Machine**
Accumulator circuit

Hydraulics Trainer 36-015 – Levels 1 & 2

This trainer with the same physical format as the 36-014 provides an additional set of exercises through the use of the Level 2 component set. With both Level 1 and 2 components a much wider course of study can be provided from the eleven exercises available with Level 1 to nineteen exercises with the addition of Level 2 components.

Level 2 components (36-653) shown in the Heavy Duty Aluminium Frame Transit/Storage case (36-656). These components can be purchased separately to upgrade Level 1 training systems.



Electro-Hydraulics Trainer 36-016

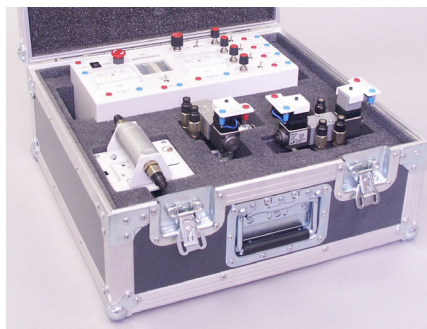
The trainer format is illustrated on the previous page where some Electro-Hydraulic components (36-653) are shown mounted on the portable circuit construction panel.

The trainer includes Electro-Hydraulics components Level 1 (36-653), Hydraulics Level 1 components (36-652), Portable Hydraulic Training System (36-650), component Transit cases (36-656 & 36-657) and a collection of exercises/solutions and question and answer papers (36-812 & 36-814).

Curriculum Exercises - Electro-Hydraulics (Level 1)

- | | |
|---|---|
| ■ Door operation | ■ Hopper door control |
| ■ Chipboard press | ■ Door with inching facility |
| ■ Panel removal from a jig | ■ Milling machine |
| ■ Product sorting | ■ Surface grinder traverse |
| ■ Rolling mill conveyor | ■ Surface grinder traverse with regenerative circuit |
| ■ Lift table | ■ Concrete mixer |
| ■ Lift truck | ■ Clamp and press |
| ■ Power winch | |
| ■ Hydraulic press with limit switch return | |

Proportional Hydraulics Trainer 36-017



Proportional set of components (36-655) shown in their heavy duty aluminium frame transit/storage case (36-658). These components can be purchased separately and added to Electro-Hydraulic components 36-654 if required.

A complete hydraulics training system, this trainer comprises the functionality of the two previous training systems covering Hydraulics, Electro-Hydraulics and Proportional Hydraulics.

The trainer comprises Hydraulics components Level 1 (36-652), Hydraulics Level 2 components (36-653), Electro-Hydraulics components (36-654) Portable Hydraulic Training System (36-650), component Transit/Storage cases (36-656, 36-657 & 36-658) and a collection of exercises/solutions and question and answer papers (36-812, 36-814 & 36-815).

Curriculum Exercises

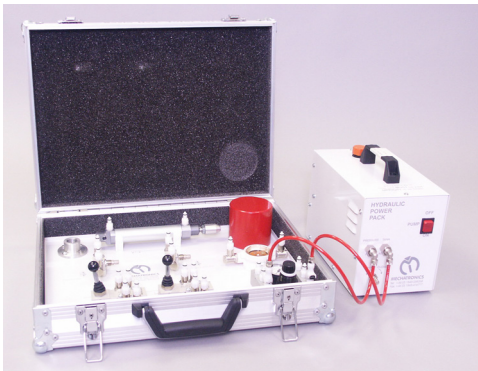
(Proportional Hydraulic components-Level 1)

- **Proportional direction control valve**
Initial amplifier settings
- **Chipboard press**
- **Lift truck**
- **Surface grinder traverse**
- **Surface grinder traverse with ramp control**
- **Milling machine**
- **Rolling mill conveyor**
- **Brick firing kiln**
- **Concrete mixer**
- **Proportional pressure relief valve**
Initial amplifier settings
- **Straightening rollers**
- **Hydraulic press**

Hydraulics - Portable Tutor Kits 36-500 & 36-502

The convenience of portability with hydraulic systems make these two compact trainers particularly attractive in circumstances of limited class room space where the units can be easily stowed away and where there is a need for training in different class rooms or at other locations. They also offer a low cost solution to meet most budgetary requirements

Hydraulics Trainer 36-500 (Basic)



The 36-500 is a complete Basic level trainer supplied with a hydraulics power pack and uses water at a maximum pressures of 3 bar, making it safe for schools to cover the fundamental principles of hydraulics.

Hydraulics Trainer 36-502 (Advanced)



This trainer provides an Advanced level, containing the same components as the Basic level trainer, plus additional components that add an extra degree of complexity to the hydraulic circuits. The physical format is the same as that for the 36-500 being portable and operating with water as the hydraulic fluid. It also includes the hydraulic power pack.

Components - PLC 36-605

This trainer provides a wide range of programming exercises specifically for Electro-Pneumatic Components 36-603 and Electro-Hydraulic components 36-654.

Using a Mitsubishi PLC, twenty four programming exercises can be performed with Trolley mounted Electro-Pneumatics 36-002 or 36-003 and Portable Electro-Pneumatics 36-005 and 36-006. The 36-605 PLC can also be used with Electro-Hydraulics trainers 36-012 and 36-016.



Curriculum Exercises

- Directional control
- Pressure control
- Double acting cylinder (with 4/2 way valve)
- Double acting cylinder (with 4/3 way valve)
- Metering 'IN'
- Weight loading of cylinder
- Motor control (speed in one direction)
- Motor control (speed in both directions)
- Single acting cylinder control
- Metering 'OUT'

Curriculum Exercises for 36-605

- Assembly fixture
- Panel removal from a jig
- Date stamping of a product
- Product separation
- Conveyor bridge
- Plastic bag heat sealing
- Conveyor selector
- Compact test machine
- Product cleansing
- Hopper door control
- Forming press
- Machine feed
- Blister pack assembly
- Level crossing barrier
- Spring test machine
- Counting & batching
- Paint shop doors
- Lift & transfer
- Embossing machine
- Product palletising
- Roll forming machine
- Press & form

Ordering Information

Pneumatic Trainers

Pneumatics Trainer (Trolley Mounted) Level 1 (36-601, 36-110 x2, 36-602, 36-810)	36-001
Electro-Pneumatics Trainer (Trolley Mounted) - Level 1 (36-601, 110 x2, 603, 811)	36-002
Pneumatics / Electro-Pneumatic Trainer (Trolley Mounted) - Level 1 (36-601, 110 x2, 602, 604, 810, 811)	36-003
Pneumatics Trainer (Portable with Storage Case) - Level 1 (36-606, 110, 602, 607, 810)	36-004
Electro-Pneumatics Trainer (Portable with Storage Case) - Level 1 (36-606, 110, 603, 607, 811)	36-005
Pneumatics / Electro-Pneumatic Trainer (Portable with Storage Cases) - Level 1 (36-606, 110, 602, 604, 607 x2, 36-810, 36-811)	36-006
Introductory Pneumatics Trainer. (Requires compressor 36-112)	36-100
Pneumatics Cutaway Components in Carrying Case.	36-105
Introductory Electro-Pneumatics Trainer. (Requires 36-112, 36-210)	36-200
Introductory PLC (Electro-Pneumatics) Trainer with Mitsubishi Alpha Controller. (Requires 36-112, 36-210)	36-202
Introductory PLC (Electro-Pneumatics) Trainer with Mitsubishi FX1S Controller. (Requires 36-112, 36-210)	36-203
Introductory PLC (Electro-Pneumatics) Trainer with Allen Bradley PICO Controller. (Requires 36-112, 36-210)	36-204
Introductory PLC (Electro-Pneumatics) Trainer with Siemens S7-200 Controller. (Requires 36-112, 36-210)	36-205
Double Sided Mobile Pneumatics Laboratory Trolley	36-601
Set of Components - Pneumatics, Level 1	36-602
Set of Components - Electro-Pneumatics, Level 1	36-603
Electro-Pneumatics Abridged Set of Components (For use with 36-602)	36-604
Set of Components - PLC. (For use with 36-603 or 36-654)	36-605
Compact Circuit Building Panel (700 x 500mm) (For use with 36-602 or 36-603)	36-606
Heavy Duty, Aluminium Frame Transit/Storage Case for Compact Circuit Board & 1 Set of Components	36-607

Accessories and Manuals

Air Compressor (Large)	36-110
Air Compressor (Small)	36-112
24V Power Supply	36-210
OHP Transparencies, Set 1 (Pneumatic Components)	36-801
OHP Transparencies, Set 2 (Pneumatic Circuits)	36-802
OHP Transparencies, Set 5 (Electro-Pneumatics)	36-805
Set of Magnetic Symbols	36-808
Collection of Exercises/Solutions with Question/Answer Papers - Pneumatics, Level 1. (For use with 36-602)	36-810
Collection of Exercises/Solutions with Question/Answer Papers - Electro-Pneumatics, Level 1. (For use with 36-603)	36-811
Collection of Exercises/Solutions with Question/Answer Papers - PLC. (For use with 36-605)	36-816

Hydraulics Trainers

Hydraulics Trainer (Trolley Mounted) - Level 1. (36-651, 36-652, 36-812)	36-010
Hydraulics Trainer (Trolley Mounted) - Level 1 & 2. (36-651, 36-652, 36-653, 36-812, 36-813)	36-011
Electro-Hydraulics Trainer (Trolley Mounted) - Level 1. (36-651, 36-652, 36-654, 36-812, 36-814)	36-012
Proportional Hydraulics Trainer (Trolley Mounted) - Level 1. (36-651, 36-652, 36-654, 36-655, 36-812, 36-814, 36-815)	36-013
Hydraulics Trainer (Portable with Storage Case) - Level 1. (36-650, 36-652, 36-656, 36-812)	36-014
Hydraulics Trainer (Portable with Storage Case) - Level 1 & 2. (36-650, 36-652, 36-653, 36-656, 36-812, 36-813)	36-015
Electro-Hydraulics Trainer (Portable with Storage Case) - Level 1. (36-650, 652, 653, 656, 657, 812, 814)	36-016
Proportional Hydraulics Trainer (Portable with Storage Case) - Level 1. (36-650, 36-652, 36-654, 36-655, 36-656, 36-657, 36-658, 36-812, 36-814, 36-815)	36-017
Introductory Hydraulics Trainer (Basic/ Portable storage case, supplied with hydraulics power pack)	36-500
Introductory Hydraulics Trainer (Advanced/Portable storage case, supplied with hydraulics power pack)	36-502
Portable Hydraulic Training System (Basic Items - No Components)(Construction panel, Power pack, Manifolds, Bag)	36-650
Double Sided Mobile Hydraulics Laboratory Trolley. (Includes two hydraulics power packs)	36-651
Set of Components - Hydraulics - Level 1	36-652
Set of Components - Hydraulics - Level 2. (Add-on to Hydraulics Level 1, 36-652)	36-653
Set of Components - Electro- Hydraulics. (Add-on to Hydraulics Level 1, 36-652)	36-654
Set of Components - Proportional Hydraulics. (Add-on to Electro-hydraulics 36-654)	36-655
Heavy Duty, Aluminium Frame Transit/Storage Case for Hydraulics Level 1 & 2 (Set of 2 Cases) for use with 36-652. (Includes space in cases to house 36-653 items)	36-656
Heavy Duty, Aluminium Frame Transit/Storage Case for Electro-Hydraulics Level 1. (For use with 36-654)	36-657
Heavy Duty, Aluminium Frame Transit/Storage Case for Proportional Hydraulics Level 1. (For use with 36-655)	36-658

Accessories and Manuals

OHP Transparencies, Set 3 (Hydraulic Components)	36-803
OHP Transparencies, Set 4 (Hydraulic Circuits)	36-804
Set of Magnetic Symbols for Fluid Power	36-808
Collection of Exercises/Solutions with Question/Answer Papers - Hydraulics, Level 1 (For use with 36-652)	36-812
Collection of Exercises/Solutions with Question/Answer Papers - Hydraulics, Level 2. (For use with 36-653)	36-813
Collection of Exercises/Solutions with Question/Answer Papers - Electro-Hydraulics. (For use with 36-654)	36-814
Collection of Exercises/Solutions with Question/Answer Papers - Proportional-Hydraulics. (For use with 36-655)	36-815

Feedback Instruments Limited

Park Road, Crowborough, E. Sussex
 TN6 2QR, England.
 Telephone: +44 (0) 1892 653322
 Fax: +44 (0) 1892 663719
 Email: feedback@fdbk.co.uk
 Website: www.fbk.com

Feedback Incorporated

437 Dimmocks Mill Road, Suite 27,
 Hillsborough, NC27278, USA
 Telephone: (919) 644 6466
 Fax: (919) 644 6470
 Email: info@feedbackinc.com
 Website: www.fbk.com